NEW PRODUCT INFORMATION

## GM860 — BYTEWIDE EPROM PROGRAMMER

* Programs from 2716 up to 27256 EPROMs

* Supports high-speed Intelligent Programming Algorithm

* Self-contained Unit

* Connects to Parallel Port

The Gemini GM860 Bytewide EPROM Programmer is capable of programming 2716, 2732, 2732A, 2764, 27128 and 27256 EPROMs. For EPROMs of 2764 and larger the GM860 utilises the approved high-speed Intelligent Programming Algorithm to drastically reduce the programming time of these devices.

The GM860 Programmer is supplied in a compact enclosure containing its own mains-powered PSU unit to generate the various programming voltage requirements. Power-On and Socket-Busy indicators inform the user of the programmer's status. Connection is to the host system's PIO, and a cable is supplied to utilise the parallel printer socket fitted to the Gemini and Quantum computer systems.

Comprehensive CP/M software is included to read, write and verify EPROMs to and from disk files.
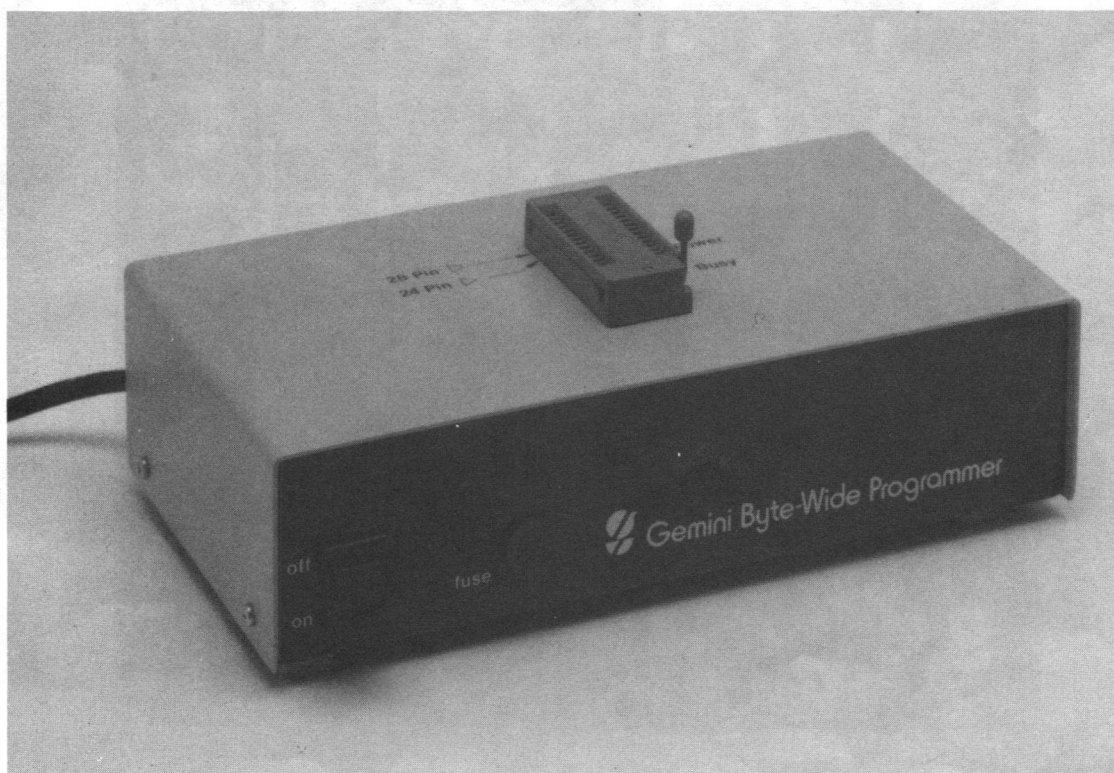
GM862 256K DYNAMIC RAM BOARD

* 256K Dynamic RAM

* Page Mode Operation

* Extended Addressing Operation

* Special ´Common Area´ Mode

* Can Use Multiple Boards – Up to 2 MBytes

The Gemini GM862 is a dynamic random access memory board with a capacity of 256K bytes. It supports the two standard 80-BUS memory expansion techniques of memory-mapped Extended Addressing and Page-Mode. In addition, when used in Page Mode, the GM862 can be configured so that only the lower 56K or 60K of memory is paged, leaving the top 8K or 4K of memory common to all four pages.

The configuration of the board is totally flexible. Each of the four 64K banks of memory on the card can be assigned to a particular Page and a particular Extended Address. These are defined by the settings of the on-board switches.

With the Gemini GM811 CPU board, only one GM862 may be used, but with the Gemini GM813 CPU board, with its on-board ´Memory-mapper´ or the 8088 processor based GM888 CPU board, with its additional address lines, a total of 2 MBytes of memory can be accessed by installing multiple GM862 boards in the system.
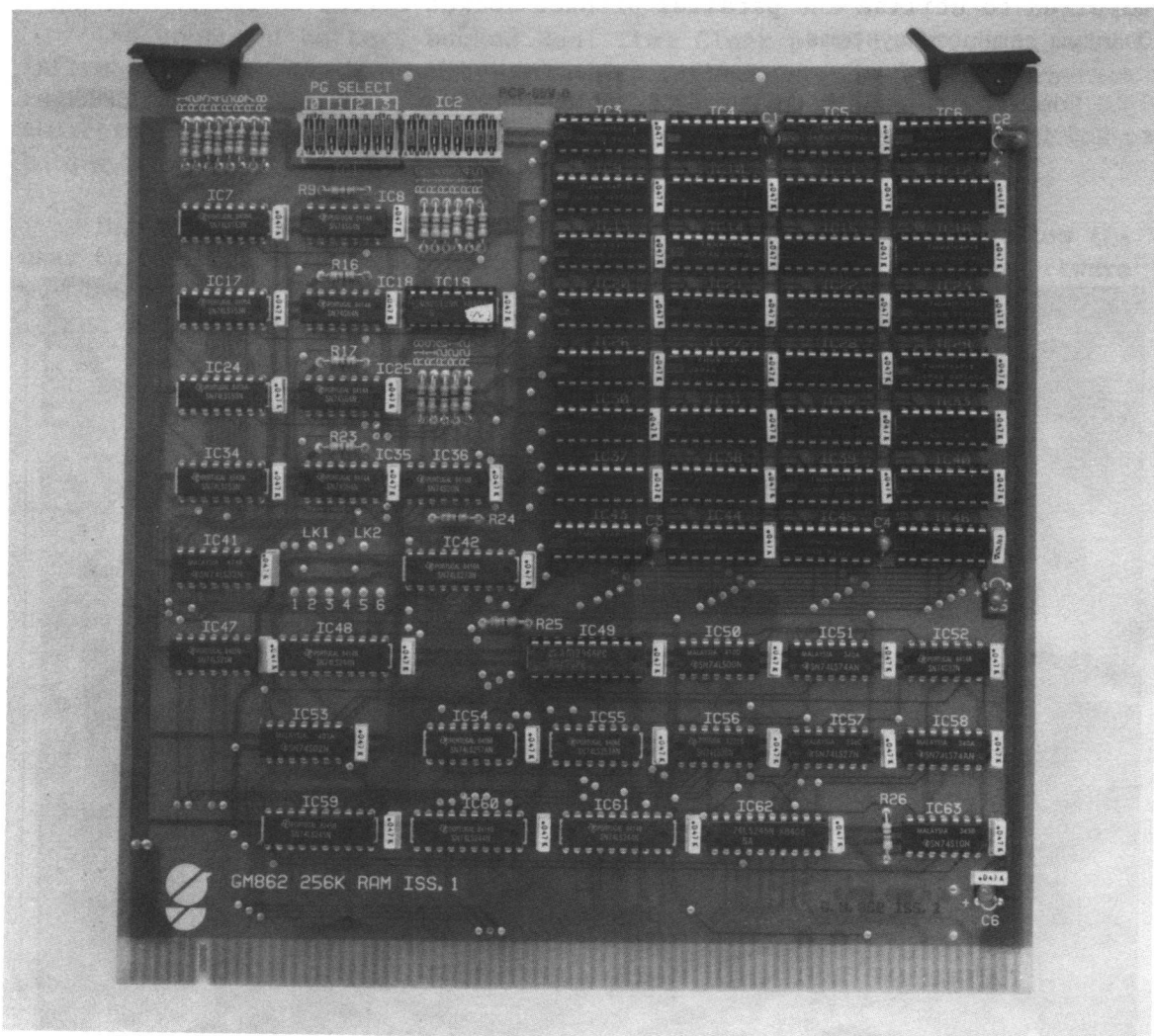
GM853 — EPROM BOARD
GM863 — STATIC RAM BOARD

*   Up to 512K of Firmware

*   Available with 32K or 64K of Battery-Backed Static RAM

*   Page Mode Operation

*   Supports Extended Addressing

The Gemini GM853/GM863 EPROM/STATIC RAM board contains 8 ´BYTEWIDE´ sockets to accept many different types of memory device ranging from 64Kbit (8K x 8) up to 512Kbit (64K x 8). The board supports the 80-BUS extended addressing mode, and may also be set to any one of the four pages of the Gemini Page Mode system.

The 8 ´bytewide´ sockets are divided into two banks of four, and each bank may contain different size memory devices to the other. Additionally either bank may be provided with optional battery back-up.

The GM853/863 is available in three different forms to suit varying system requirements:

GM853   –   8 ´bytewide´ sockets
GM863-32 –   32K of battery-backed static RAM
                plus 4 ´bytewide´ sockets
GM863-64 –   64K of battery-backed static RAM

GM888 — 16-BIT PROCESSOR BOARD

* 8 MHz 8088 16-Bit CPU

* Allows Dual Processor 80-BUS System

* Real Time Clock with Battery Back-Up

* Optional 8087 Arithmetic Co-Processor

The Gemini GM888 board contains an Intel 8088 16-bit processor together with a Real Time Clock with battery back-up and a socket for the fitting of an optional 8087 high-speed arithmetic co-processor. An 80-BUS I/O port is allocated to allow the operating system or user program to switch between using the 8088 CPU on the GM888 and the Z80A on the host CPU board (ie, GM811 or GM813).

On-board firmware is restricted to a minimal 'bootstrap' program. This approach means that the operating system is not committed to one particular choice, but may be CP/M-86, Concurrent CP/M, MS-DOS (a variant of IBM PC-DOS), or any future 8088 compatible operating system. Gemini have already implemented CP/M-86.

The GM888 board is based on the 8MHz version of the 8088 CPU, and it is interfaced to the 4MHz 80-BUS via a 'state-machine'. This interface maps the 8088 control signals to Z80 equivalents so that the board may be used with the existing Gemini MultiBoard range. An apparent overall CPU clock-rate of approximately 6MHz is achieved, out-performing the 4.77MHz rate of the IBM PC quite considerably.

The on-board battery-backed Real Time Clock provides time and date information which may be used by certain operating systems. It also provides regular interrupts, which may be utilised by Concurrent CP/M for task switching, and a small area of battery-backed memory, which may be used to hold system configuration information.

The addition of this board to a Gemini MultiBoard system will allow the user to run both existing CP/M-80 applications programs as well as software written for the 16-bit operating systems mentioned above.